Knowledge and Attitudes of Public High School Athletic Trainers regarding Concussion Management Recommendations following Concussion Awareness Education

Furutani TM*, Oshiro RS†, Cleary MA*, Murata NM*, Goeckeritz LM†, Kanaoka T†, Wahl TP*, Kocher MH*

*Department of Kinesiology and Rehabilitation Sciences, University of Hawaii at Manoa, Honolulu, HI; †State of Hawaii Department of Education

Context

Concussion management involves a multifaceted approach that athletic trainers (AT) may be unprepared for or uncomfortable implementing. Continuing education (CE) is essential in keeping up-to-date of current evaluation techniques, injury management recommendations, and return to participation (RTP) decisions.

Objective

Describe the knowledge and attitudes of public high school ATs to recent concussion management recommendations and comfort level in implementation and interpretation of assessment tools.

Design

Cross-sectional descriptive investigation following a continuing education program.

Setting

A team of ATs involved in a state-wide concussion management program (CMP) presented an educational program to practicing ATs to raise knowledge and awareness of recent concussion management recommendations.

Participants

Public high school ATs attending the educational program were solicited to participate in the investigation, n=61, male=31/61(50.8%), female=30/61(49.2%), age <30yr=15/61(24.6%), >30=46/61(75.4%) years of experience (Table 1) =<10yr=33/61(54.1%), >10yr=28/61(45.9%). We analyzed surveys received from 85% (61/72) ATs in attendance in person and attending online.

Interventions

A survey developed by the CMP team was reviewed for content validity and revised by an expert in survey research. The content of the instrument included 8 demographic questions and 21 Likert scale questions (1=strongly disagree, 5=strongly agree) related to knowledge and comfort level with the three major components of concussion management: clinical examination, balance testing, and neurocognitive testing in making RTP decisions. Face and content validity of the instrument was established by pilot testing with 5 AT prior to implementation. Participants anonymously completed the survey online following an educational program.

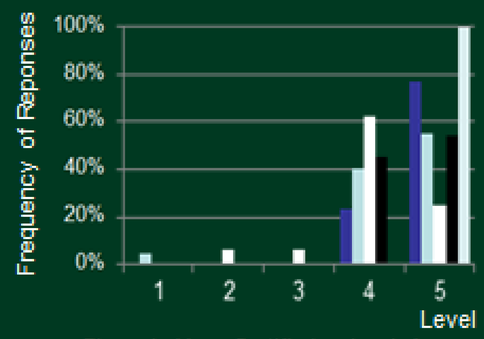

Figure1. Years Certified on level of agreement with Combination of tests helps make a better decision about when it is safe to RTP.

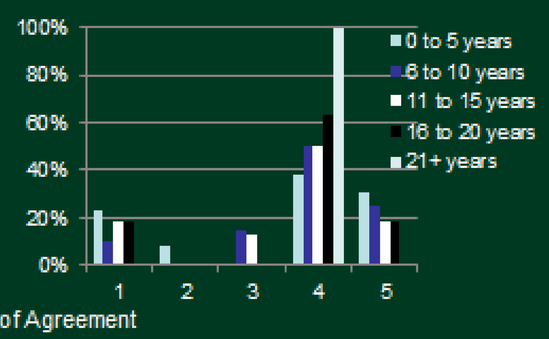

Figure 2. Years Certified on level of agreement that training was useful in understanding, administering and interpreting tests.

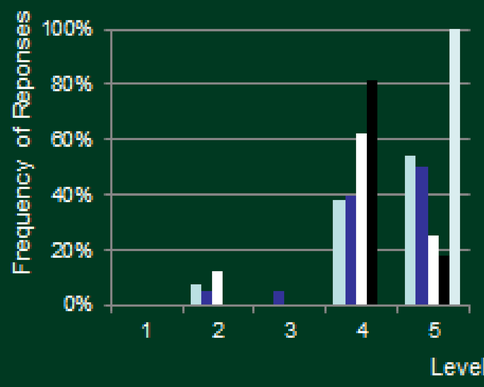

Figure 3. Years Certified on level of agreement with level of comfort administering neurocognitive tests.

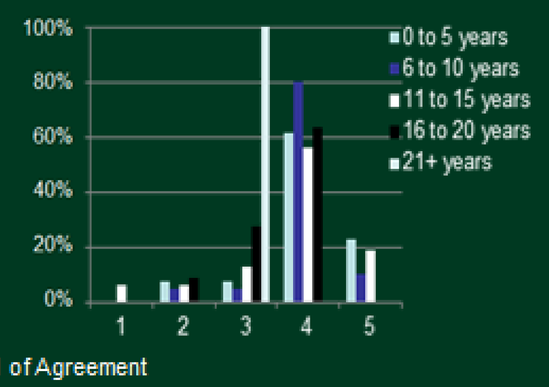

Figure 4. Years Certified on level of agreement with level of comfort interpreting neurocognitive tests.

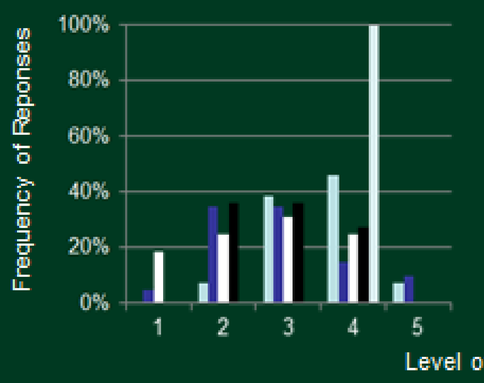

Figure 5. Years Certified on level of agreement with level of comfort administering balance tests.

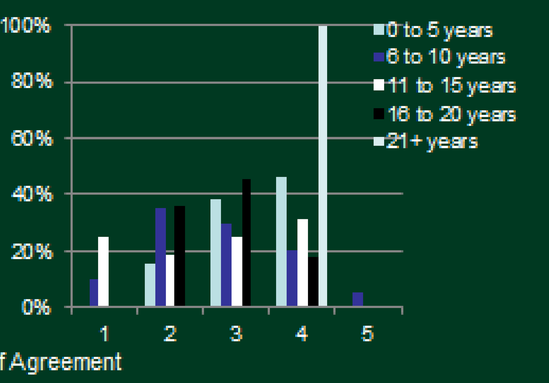

Figure 4. Years Certified on level of agreement with level of comfort interpreting balance tests.

Note. 1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5 Strongly Agree

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Main Outcome Measures

Knowledge and level of comfort with the three major components of concussion management: clinical examination, balance testing, and neurocognitive testing. Chi-square analysis was conducted.

Table 1. Participant demographics-Years Certified (n=61)

Year Certified	n	%
0-5 years	13	21%
6 to 10	20	33%
11 to 15	16	26%
16 to 20	11	18%
21+ years	1	2%

Results

No significant differences were found for years certified (X^2=25.470, P=.062). Athletic trainers agreed/strongly agreed (4.5±0.6) that a combination of tests (clinical examination, balance, and neurocognitive testing) helps make a better decision about when it is safe for RTP (Figure 1). ATs also agreed/strongly agreed that the CMP documentation helped make a better decision (4.1±0.7) and that the awareness training (Figure 2) was useful in administering and interpreting concussions test (4.1±0.7). Although, AT did feel comfortable administering (Figure 3) neurocognitive tests (4.3±0.8), they felt less comfortable (Figure 4) interpreting the results (3.9±0.7). AT were comfortable administering (Figure 5) balance testing (3.0±1.0), but less so in interpreting (Figure 6) balance testing and using it as a decision tool for RTP (2.9±1.0).

Conclusions

Athletic trainers were knowledgeable about current concussion management recommendations and recognized the benefits of a multifaceted approach in a CMP. AT appreciated the need for CE to increase knowledge and awareness of current recommendations. AT were comfortable administering neurocognitive and balance tests, but were less comfortable interpreting these tests and making RTP decisions based on the results. Athletic trainers should appreciate the need for CE and participation in educational activities that enhance their skills and knowledge relating to concussion management recommendations.

Practical Application

Interpreting neurocognitive and balance test results is an important aspect of concussion management. Athletic Trainers must continue to learn and practice this skill to be more confident in making RTP decisions.